EPA Region 5 Records Ctr.
170337

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
POLLUTION REPORT

I. HEADING

DATE: May 15, 2000
SUBJECT: Gurnee Mercury Spill
FROM: Mike Harris, OSC, U.S. EPA, Region 5, EERB, RS-2

TO:
K. Mould, U.S. EPA, OSWER, Washington, D.C. ..... Email
R. Karl, Branch Chief, U.S. EPA, EERB, Chicago, IL ..... Email
B. Bolen, Chief, RS II, U.S. EPA, EERB, Chicago, IL ..... Email
B. Messenger, Chief, U.S. EPA, ESS, Chicago, IL ..... Email
G. Narsete, Community Relations, U.S. EPA, Chicago, IL ..... Email
M. Horwitz, U.S. EPA, OCEPP, Chicago, IL ..... Email
J. Maritote, U.S. EPA, ESS, Chicago, IL ..... Email
R. Sessions, Deputy Chief, Gurnee Fire Dept ..... FAX (847) 263-2260
B. Henby, Captain, Gurnee Fire Dept ..... FAX (847) 244-8693
B. Heraver, Captain, Gurnee Fire Dept ..... FAX (847) 244-8693
M. Kuhn, Lake County Health Dept ..... FAX (847) 249-4972

POLREP No.: POLREP # 4 (Interim Final)

II. BACKGROUND

Site: Gurnee Mercury Spill
Site No.: B5M4
Task Order No.: 16
Response Authority: CERCLA
CERCLIS No.: ILP200000272
NPL Status: Not on the NPL
State Notification: IEPA Notified
Action Memorandum Status: Pending
Incident Category: Emergency Response
Starting Date: March 30, 2000
Reporting Date: April 22, through May 15, 2000
Completion Date: Not Available

III. SITE DESCRIPTION

See POLREP #1 (dated April 10, 2000) for site description. Details of previously completed removal actions and restoration activities are contained in POLREP #1, POLREP #2 (dated April 17, 2000) and POLREP #3 (dated April 25, 2000).

IV. RESPONSE INFORMATION

A. Status of Actions

No on-site activities were performed at either the Belle Plaine or Magnolia residences from Friday, April 21, 2000, through Thursday, April 27, 2000. The April 19, 2000, discovery, that the floor paint in the basement bedroom at the Magnolia residence was a potential mercury source, resulted in U.S. EPA and the Agency for Toxic Substances and Disease Registry (ATSDR) determining that the encapsulation of the bedroom floor should be performed as an additional remedial action. Between April 22, 2000, and April 26, 2000, U.S. EPA obtained an appropriate epoxy-based floor coating and scheduled the necessary contractor support to complete this additional measure.

On Thursday, April 27, 2000, U.S. EPA and START returned to the [redacted] Magnolia residence to continue remedial activities. The selected procedure for encapsulating the basement floor involved the application of a primer coat, followed by an epoxy coating. Phase I of the encapsulation process was completed between 1000 hours and 1145 hours, including the required preparation and cleanup time. Because the primer coat required a minimum drying time of six hours to ensure proper adhesion by the epoxy, the ERRS contractor departed the site to obtain a blower/HEPA filter unit to provide overnight ventilation during the second phase of the encapsulation process. However, conditions inside the basement (elevated humidity levels and poor air circulation) resulted in the primer coat not being dry when the ERRS contractor returned to the site. Subsequently, U.S. EPA decided to postpone the application of the epoxy coating and to ventilate the bedroom overnight using the blower/HEPA filter unit to ensure complete drying of the primer coat. START completed seven rounds of air monitoring, using a mercury vapor analyzer, a photoionization detector or both, throughout the performance of site activities.

On Friday, April 28, 2000, U.S. EPA and START returned to the [redacted] Magnolia residence to complete the second phase of the floor encapsulation activities. During the completion of the initial air monitoring, it was discovered that the basement had flooded overnight and that standing water was present inside the basement bedroom. The residents informed U.S. EPA that they had found standing water at the foot of the stairway at approximately 0700 hours, at which time they disconnected the blower/HEPA filter unit. The ERRS contractor consulted with the manufacturer of the epoxy coating and was told that, once the standing water was removed, the epoxy coating could be applied without any future ramifications. Between 1000 hours and 1030 hours, the ERRS contractor used rags to remove the standing water from the floor of the basement bedroom and reactivated the blower/HEPA filter unit. Concurrently with the water removal activities, the ERRS contractor continued restoration activities by returning clothing to the non-bedroom portions of the basement. At 1135 hours, the ERRS contractor began preparation activities for applying the epoxy coating by mixing the two components of the epoxy. Between 1330 hours and 1420 hours, the ERRS contractor completed the application of the epoxy coating. The blower/HEPA filter unit was left on following the application of the epoxy coating to provide ventilation and to enhance the drying process. Before departing the site, U.S. EPA requested that the residents not enter the basement, and particularly the basement bedroom, for a minimum of 48 hours. START performed five rounds of air monitoring for mercury and organic vapors, including two rounds completed following the application of the epoxy coating, throughout the completion of site activities.

On Monday, May 1, 2000, U.S. EPA and START returned to the [redacted] Magnolia residence. The only task scheduled for completed by the ERRS contractor was the removal of the blower/HEPA filter unit, which was completed between 1025 hours and 1035 hours. Between 1045 hours and 1050 hours, START deployed three air sampling pumps inside the residence. The sample pumps were programmed to be activated at 1050 hours and to collect an air sample for a total of 180 minutes (three hours). A sample ampule was affixed to the wall of the residence's garage for the same duration to provide a quality assurance/quality measure sample. The three sample pumps and four ampules were collected between 1400 hours and 1420 hours and a sample of the floor paint originally used in the basement bedroom was collected at 1430 hours. START collected two rounds of air monitoring at the site during the performance of on-site activities. The samples were later shipped to Armstrong Forensic Laboratory in Arlington, Texas, for mercury analysis.

On Tuesday, May 2, 2000, U.S. EPA received a preliminary analytical report for the air samples submitted on May 1, 2000. These reported results were compared to the ATSDR residential cleanup standard of 0.0003 milligrams per cubic meter (mg/m^3) to determine if additional remedial activities were needed at the site. From this comparison, it was noted that the results for the samples collected in the basement bedroom (0.00089 mg/m^3) and the laundry area (0.00042 mg/m^3) exceeded the standard; however, ATSDR agreed that the cleanup levels achieved were acceptable.

B. Next Steps

1. Submit a letter to the Lake County Health Department stating that an acceptable level of remediation has been reached and recommend that the residents of 542 Magnolia install a ventilation system to improve air circulation in the basement.
2. Perform an additional round of confirmatory air sampling in 3 to 6 months to verify the effectiveness of the floor encapsulation.

C. Key Issues

None.

V. COST INFORMATION

As of May 6, 2000

Group	Ceiling Cost	Cost to Date	Remaining
ERRS	N/A	$ 55,000.00	N/A
START	N/A	$ 12,720.00	N/A
U.S. EPA	N/A	$ 7,000.00	N/A
TOTAL	N/A	$ 74,720.00	N/A

* The above accounting of expenditures is an estimate based on amounts known by the OSC at the time of preparation of this report. The cost accounting data shown in this report does not necessarily represent the exact monetary figures which the U.S. Government may include in any claim for cost recovery.

VI. DISPOSAL INFORMATION

Disposition of Wastes
Gurnee Mercury Spill
Gurnee, Lake County, Illinois

Wastestream	Quantity	Date	Disposal Facility
Waste Mercury, 8, UN2809, PGIII	100 pounds	3/31/00	Superior Special Services, Inc. 1275 Mineral Springs Dr. Port Washington, WI 53074
Waste Toxic Solid, inorganic, n.o.s. (mercury), 6.1, UN3288, PG III	10 yd^3	4/4/00	Onyx Environmental W124 N9451 Boundary Rd. Menomonee Falls, WI 53051
Waste Toxic Solid, inorganic, n.o.s. (mercury), 6.1, UN3288, PG III	15 yd^3	4/4/00	Superior Special Services, Inc. 1275 Mineral Springs Dr. Port Washington, WI 53074